



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,611	01/16/2007	Mirko Schindler	BM-189PCT	1769
40570	7590	01/19/2011		
Lucas & Mercanti LLP 475 Park Avenue South New York, NY 10016			EXAMINER EUSTAQUIO, CAL J	
			ART UNIT 2612	PAPER NUMBER
			MAIL DATE 01/19/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/575,611

Applicant(s)

SCHINDLER ET AL.

Examiner

CAL EUSTAQUIO

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

Claim Rejections - 35 USC § 112, 2nd paragraph

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 112, 2nd paragraph that form the basis for the rejections under this section made in this Office action:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 24 and 40** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claim 24** recites the limitation "at least one capacitive electronic sensor circuit (28, 38), which is mounted on the bracket (10) and on an outer electrode." It is believed that the capacitive electronic sensor circuit should be coupled to "the outer electrode that is active in the outside area." Correction is required. Furthermore, **claim 24** contains the following limitations to which there are insufficient antecedent basis in the claim: wherein the sensor surfaces (37,67;47,57); and, wherein active surfaces(35, 59; 45, 55). Additionally, in **claim 24**, the limitations "wherein active surfaces designated as transfer surfaces (36, 56; 46) never received the designation of being "transfer services."

b) **Claim 40** recites the limitation "in particular in the finger" which isn't clear whether "the finger" is a positive recitation or whether things other than the finger are positively recited. The claimed limitations should be directed to limiting the claim to a feature without ambiguity.

Claim Rejections-35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 24-27, 29, 34-36, and 41** are rejected under 35 U.S.C. 103(a) as being obvious over Macarini, EP 0999324 in view of Van den Boom et al, U.S. 6,075,294 and Nahata, U.S. 2001/0052839.

As to claims 24, Macarini recites the claimed: External door handle, especially for motor vehicles, comprising:

a stationary bracket (10) attached to the door (11) (page 1, 4, connecting structure);
a grip (20), supported pivotably on the bracket (10) (as above, 13, and [0021], pin 16, suggesting that grip 13 pivots about pin 16);

a lock mounted in the door (11), which lock can be switched between a locked and an unlocked position ([0010] lock mounted on the door);;

wherein an actuation (24) of the grip (20) to open the door (11) is nonfunctional in the locked position but functional in the unlocked position ([0018], discloses change a door state from being locked to unlocked); and

Except for the claimed:

at least one capacitive electronic sensor circuit (28, 38), which is mounted on the bracket (10) and on an outer electrode that is active in the outside area of the external door handle;

wherein an active surface (37) of the outer electrode senses the approach of or contact by an authorized person and is therefore called the sensor surface (37); and

wherein the authorized person carries with him an active or passive means of identification for access authorization and/or driving authorization for the vehicle;

wherein in an inner area of the external door handle at least first and second further inner electrodes are connected to the capacitive electronic sensor circuit (28, 38);

wherein the sensor surfaces (37, 67; 47, 57) operable in the outside area are arranged on the pivotable grip (20) and/or on a cover part (25) of the external door handle;

wherein active surfaces designated as transfer surfaces (36, 56; 46) of the second inner electrode are provided on the grip (20) and/or the cover part (25), and are electrically connected (34, 60; 49) to the sensor surfaces (37, 67; 47, 57) operable in the outside area;

wherein the two inner electrodes serve to transfer an inner coupling field (50.1 to 50.4);

wherein the active surfaces (35, 59; 45, 55) of the first inner electrode (35, 59; 45, 55) build up the coupling field (50.1 to 50.4), and are called exciter surfaces of the first inner electrode;

wherein the exciter surfaces (35, 59; 45, 55) of the first inner electrode are arranged on the bracket (10) at a free gap (39) to the transfer surfaces (36, 56; 46) of the second inner electrode, which first inner electrode is connected to the electronic sensor circuit (28, 38) and relative to the transfer surfaces (36, 56; 46) of the second inner electrode at least in the rest position builds the electrical coupling field (50.1 to 50.4);

wherein the coupling field (50.1 to 50.4) functions in the inner area of the external door handle; and

in the outer area of the external door handle, the approach or contact detected by the sensor surfaces (37, 67; 47, 57) is conducted to the electronic sensor circuit (28, 38) in the bracket (10) by via the transfer surfaces (35, 56; 46) of the second inner electrode and the exciter surfaces (35, 59; 45, 55) of the first inner electrode.

As to the above claimed limitations, Macarini discloses the use of magnetic detection systems to lock and unlock a vehicle door lock system. However, Macarini does not disclose the use of capacitive sensing circuits to perform vehicle door locking and locking. In the same art of vehicle door systems, **Van den Boom** recites a similar door handle locking system, which includes the following:

at least one capacitive electronic sensor circuit (28, 38), which is mounted on the bracket (10) and on an outer electrode that is active in the outside area of the external door handle (FIG. 3 and 4, at least three capacitance sensors 30-34 located within a portion of the door handle);

wherein an active surface (37) of the outer electrode senses the approach of or contact by an authorized person and is therefore called the sensor surface (37) (col. 3, lines 64-67 and col. 4, lines 1-7); and

wherein the authorized person carries with him an active or passive means of identification for access authorization and/or driving authorization for the vehicle (col. 1, lines 15-23, data storage medium held by the operator, and col. 3, lines 3-24);

wherein in an inner area of the external door handle at least first and second further inner electrodes are connected to the capacitive electronic sensor circuit (28, 38) (FIG. 1, and col. 4, lines 33-45, capacitance sensor 30-34);

wherein the sensor surfaces (37, 67; 47, 57) operable in the outside area are arranged on the pivotable grip (20) and/or on a cover part (25) of the external door handle (FIG. 3 and 4 recite sensor surfaces on door handle 29 to which handle 28 pivots).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the magnetic detection system in the vehicle door handle security system

of Macarini with known capacitive detection system as taught by Van den Boom as an alternative to provide the intended detection function and achieve the same intended objectives, which would have resulted in a vehicle door system that utilizes a door capacitance detection system in the manner claimed.

As to the remaining limitations not recited under Macarini nor Van den Boom, Nahata recites the following claimed limitations (element labels are from the claim itself for this recitation):

wherein active surfaces designated as transfer surfaces (36, 56; 46) of the second inner electrode are provided on the grip (20) and/or the cover part (25), and are electrically connected (34, 60; 49) to the sensor surfaces (37, 67; 47, 57) operable in the outside area;

wherein the two inner electrodes serve to transfer an inner coupling field (50.1 to 50.4);

wherein the active surfaces (35, 59; 45, 55) of the first inner electrode (35, 59; 45, 55) build up the coupling field (50.1 to 50.4), and are called exciter surfaces of the first inner electrode;

wherein the exciter surfaces (35, 59; 45, 55) of the first inner electrode are arranged on the bracket (10) at a free gap (39) to the transfer surfaces (36, 56; 46) of the second inner electrode, which first inner electrode is connected to the electronic sensor circuit (28, 38) and relative to the transfer surfaces (36, 56; 46) of the second inner electrode at least in the rest position builds the electrical coupling field (50.1 to 50.4);

wherein the coupling field (50.1 to 50.4) functions in the inner area of the external door handle; and

in the outer area of the external door handle, the approach or contact detected by the sensor surfaces (37, 67; 47, 57) is conducted to the electronic sensor circuit (28, 38) in the bracket (10) by via the transfer surfaces (35, 56; 46) of the second inner electrode and the exciter surfaces (35, 59; 45, 55) of the first inner electrode.

As to the above limitations, Van den Boom, as previously recite before, includes elements of a door handle detection system in which a user, upon desiring entry or action upon a vehicle door, causes the vehicle door handle circuitry to respond depending on conditions shown before. However neither Macarini nor Van den Boom recites specifics with regards to the operation of the door handle. In the same art of vehicle door entry technology, Nahata, FIG. 3 and [0023-0024], recites a door handle sensing system which contains the following elements: an overall sensor 20 which includes a sense element 22, an actively shielded layer 30, and a capaciflective sensor circuit 50. Circuit 50 maintains voltages between element 22 and element 30. The cooperation between these different elements causes an electric field 34 to propagate outwards to detect the approach of a hand 38. The circuit is analogous to the Applicant's invention disclosed in FIG. 1, in which a sensor surface 37 is coupled to a transfer surface 36 further coupled to an exciter surface 35, which is ultimately coupled to a sensor circuit 28 through gap 39. Sensor surface 37 functions in the same way as Nahata's sense element 22. Although Nahata does not use a transfer surface 36 disclosed in the Applicant's invention, effectively, sensor surface 37 is the same as transfer surface 36 because there is a direct connection or a short between 36 and 37. Nahata's shield layer 30 receives voltages from sensor circuit 40 in same manner as Applicant's exciter surface 35 is coupled to sensor circuit 38. When a hand approaches handle 20 containing sensor surface 37, an appropriate locking or unlocking, depending on the desired condition the user determines the act to be, occurs to the door locking system in the same manner the door handle sensing system responds to a user's hand 38.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the door handle mechanisms shown in Macarini and Van den Boom the door handle security mechanism recited in Nahata as a known alternative door handle and detection structural design. The use of these known door handle mechanisms are not new in the art and one of ordinary skill would have had a likelihood of success in providing the above combination which makes obvious the claimed invention.

As to **claim 25**, the combination of Macarini and Van den Boom recites the claimed: External door handle according to **claim 24**, wherein the grip (20) is constructed as a pull-type grip that is pivotally supported (15) at one end (21) on the bracket (10), wherein the transfer

surfaces (36, 56) of the second inner electrode are arranged on an opposite free end (22) of the grip. See rejection of **claim 24**, with respect to Van den Boom, FIG. 3.

As to claim 26, the combination of Macarini and Van den Boom recites the claimed: External door handle according to **claim 25**, wherein the grip end (22) has an arm (32) that cooperates with the lock upon actuation (24) of the pull-grip (20), wherein the movable transfer surfaces (36, 56) of the second inner electrode are in an inner end of the arm (23), and wherein the transfer surfaces (35, 56) of the second inner electrode and the electrical connection (34, 60) to the sensor surface (37, 67) are integrated in the arm (23). See rejection of **claim 24**.

As to claim 27, the combination of Macarini and Van den Boom recites except for the claimed: External door handle according to **Claim 24**, wherein a layer (52) of electrically conductive paint is applied to the exterior surfaces (53) and/or to the interior surfaces of the external door handle, at least in certain defined areas, and in that this paint layer (52) produces the first electrode with its sensor surface (57), the second electrode with the transfer surface, and/or the third electrode with the exciter surface. As previously disclosed in **claim 1**, the combination of Macarini and Van den Boom discloses the use of at least three different electrodes. As disclosed in **claim 3**, the above combination also includes the use of conductive surfaces to aid the capacitive reflective sensors to generate an electric field. However, neither the combination of Macarini and Van den Boom discloses the use of electrically conductive paint. In the same art of vehicle door systems, Nahata, [0029-30], discloses the use of conductive paint used to form part of a capacitive sensing system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini and Van den Boom the use of conductive paint as shown in Nahata to produce the above claimed limitations. Using conductive paint, as demonstrated in Nahata, is old in the art and one of ordinary skill in the art would have recognized this known feature and included it in the manner claimed with a reasonable amount of success.

As to claim 29, the combination of Macarini, Van den Boom, and Nahata recites the claimed: External door handle according to **Claim 24**, wherein the external door handle has several separate, outward-acting sensor surfaces (67, 47) for sensing the presence of a human

hand and/or inward-acting transfer surfaces (56, 46) and/or exciter surfaces (59, 45) for building up the coupling field, and in that these separate sensor surfaces (67, 47), upon contact by or approach of the authorized person, trigger different functions in the lock and/or in the vehicle. See rejection of **claim 24**.

As to claim 34, the combination of Macarini, Van den Boom, and Nahata recites the claimed: External door handle according to **Claim 31**, wherein the electronic sensor circuits (28,38) are located in a housing unit (30), which is seated on the bracket (11). As previous disclosed in **claim 24**, the combination of Macarini, Nahata, and Van den Boom discloses capacitance sensors located within the portion of the door handle. The door handle portion functions as the claimed "housing" while the claimed "bracket," would be the supporting structure for the handle shown on FIG. 3 of Van den Boom.

As to claim 35, the combination of Macarini and Van den Boom recites the claimed: External door handle according to **Claim 34**, wherein the housing unit (30) is prefabricated and can be attached to the inward-facing (26) of the bracket (11). See rejection of **claim 34** with regards to FIG. 3 of Van den Boom in which the door handle 13 is placed in a similar configuration to the claimed housing unit.

As to claim 36, the combination of Macarini, Van den Boom, and Nahata recites the claimed: External door handle according to **Claim 34**, wherein the housing unit (30) is prefabricated and is attached in the area of a barrel (17) mounted on the bracket, -- where the barrel (17) is mounted in the bracket (11) next to the grip (20). See rejection of **claim 35**. The claimed housing unit and barrel is close in scope and function to the door lock handle assembly 13 disclosed in FIG. 3 of Van den Boom.

As to claim 41, the combination of Macarini, Van den Boom, and Nahata recites except for the claimed: External door handle according to **claim 24**, wherein the sensor surfaces (37, 67) acting in the outside area, the transfer surfaces (36, 46, 56) that transfer the coupling field, and the electrical conductors (34, 49, 60) that connect them to each other are all constructed as a single part. As to the above limitations, Macarini, Van den Boom, and Nahata recite, as in the rejection of **claim 24**, the above combination. However, the combination is not recited as though

the components are of a "single part." It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include the separate components recited above into a single part from the disparate components recited above. However, although the disclosed limitations are claimed in the above manner as "a single part," the resultant claimed limitations would not result in improved results. See the following:

We are inclined to agree with the board's construction of the term "integral" as used in claim 12. Then, too, we are inclined to agree with the position of the solicitor that the use of a one piece construction instead of the structure disclosed in Tuttle et al. would be merely a matter of obvious engineering choice. In re Fridolph, 50 CCPA 745, 89 F.2d 509, 135 USPQ 319.

In re Lockhart, 90 USPQ4214 (CCPA 1951) After a careful examination of the record, we do not find ourselves in agreement with appellant's argument. Although it is true that invention may be present under some circumstances in making integral that which was separate before, we do not feel that such is the case here. Improved results only will not take the case out of the general rule. There is also a requirement that the unification or integration involve more than mere mechanical skill.

In re Murray, 19 C.C.P.A. (Patents) 739, 53 F.2d 541, 11 USPQ 155; In re Zabel et al., 38 C.C.P.A. (Patents) 832, 186 F.2d 735, 88 USPQ 367. In this case, all of the essential elements of the appealed claims except integration of parts, are found in the references. It appears to us that the unity or diversity of parts would depend more upon the choice of the manufacturer, and the convenience and availability of the machines and tools necessary to construct the syringe, than on any inventive concept.

Howard v. Detroit Stove Works, 150 U.S. 164 (1893) As to the third patent, it is void because the claims in it were clearly anticipated, and because it involves no invention to cast in one piece an article which has formerly been cast in two pieces and put together, nor to make the shape of the grate correspond with that of the firepot.

4. **Claim 28** is rejected under 35 U.S.C. 103(a) as being obvious over Macarini, EP 0999324 in view of Van den Boom et al, U.S. 6,075,294 and Nahata, U.S 2001/0052839, and further in view of Magnussen et al, U.S. 6,529,122.

As to claim 28, the combination of Macarini, Van den Boom, Nahata, and Macarini discloses except for the claimed: External door handle according **claim 24**, wherein an electrically conductive layer of elastic material is applied to the exterior surfaces and/or to the interior surfaces of the external door handle, at least in certain defined areas, and in that -- this layer produces the first electrode with the sensor surface (57). The above combination, while disclosing the use of electrically conductive paint, does not disclose the use of electrically conductive elastic material in the door handle. In the same art of electronic conductive material usage, Magnussen, col. 3, lines 29-45, discloses the use of an elastomer that is elastic and

conductive. The disclosed device is used in a tactile/touch environment. Furthermore, col 19, lines 28-60, discloses the use of this material in touch sensors and automotive applications. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini, Van den Boom, Nahata, and Macarini the elastic conductive material disclosed in Magnussen to produce a door handle security device that includes the use of elastic conductive material. Magnussen discloses a known use of a conductive elastomer in the electronic and vehicular technology arena and therefore, one of ordinary skill in the art would have found it obvious to utilize such material because the use of a plastic device over a metallic equivalent would produce weight savings and reduce the device's susceptibility to rust and corrosion.

5. **Claim 39** is rejected under 35 U.S.C. 103(a) as being obvious over Macarini, EP 0999324 in view of Van den Boom et al, U.S. 6,075,294 and Nahata, U.S 2001/0052839 and Eychenne, EP 1111171 (copy provided by Applicant with IDS dated 4/12/06).

As to claim 39, the combination of Macarini, Van den Boom, and Nahata recite except for the claimed: External door handle according to claim 38, wherein the finger (32) follows a profile course of the arm (23) when the grip (20) is in a rest position. As to the above limitations, none of the above recited references include the structure claimed. In the same art of door handle technology, Eychenne, FIGs 12 and 13 recite a door handle in which the door handle in FIG. 12 is at rest while the door handle in FIG. 13 is not in the rest position. FIG. 12 includes a fixed mechanism at 11, a moveable arm and grip 18, which is respectively analogous to the Applicant's door handle assembly which includes finger 32, arm 23 and grip 20. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini, Van den Boom, and Nahata the door handle assembly recited in Eychenne to provide a combination that includes a structure that meets the claimed invention. The use of door handle mechanisms as recited in Eychenne is not new in the art and one of ordinary skill would have had a likelihood of success in incorporating these known features into the above combination that makes obvious the claimed invention.

6. **Claims 30-33, 37, 38, and 40** are rejected under 35 U.S.C. 103(a) as being obvious over Macarini, EP 0999324 in view of Van den Boom et al, U.S. 6,075,294 294 and Nahata, U.S 2001/0052839 and Sanders, U.S. 4,774,255.

As to claim 30, the combination of Macarini, Van den Boom, and Nahata recites except for the claimed: External door handle according to **Claim 29**, wherein one of the sensor surfaces (67) serves to unlock the lock, whereas another (47) serves to lock the lock. As previously disclosed in **claim 24**, the combination of Macarini, Van den Boom, and Nahata recites a capacitive sensing system that unlocks a vehicle door upon authorization received from a data storage module carried by the user. However, neither discloses one set of sensor surfaces serving to unlock a door while another sensor surface locks a door. In the same art of vehicle door security systems, Sanders, col. 13, lines 13-16, discloses a keypad/transmitter that changes the operational characteristics of a vehicle system to include changing a door function from a locking function to an unlocking function. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini and Van den Boom the vehicle configuration keypad disclosed in Sanders a vehicle door system that can change the function of a door locking system from a locking system to a door unlocking system. By changing the function of the door handle capacitance sensors, the door handle surfaces effectively become two different door sensor systems that meet the claimed different sets of door handle sensors. Such a system, as disclosed in Sanders, is not new in the art and such a system would have the advantage of using one set of sensors to provide multiple uses.

As to claim 31, the combination of Macarini, Van den Boom, Nahata, and Saunders discloses the claimed: External door handle according to **Claim 29**, wherein the sensor surfaces cause the movable parts to move in the opening direction upon contact by or approach of the authorized person and then in the closing direction upon the next approach or contact. As previously disclosed in **claim 30** above, the above combination discloses changing the vehicle door sensing system to unlock and open a door, which is the claimed "opening and closing directions." It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the above combination the known concept of closing a door upon exiting the vehicle and opening the door upon reentering a vehicle. This is a commonly

held known practice and one of ordinary skill in the art would have known/recognized this operational procedure and would have likely used this known procedure in the manner claimed.

As to **claim 32**, the combination of Macarini, Van den Boom, Nahata, and Saunders discloses the claimed: External door handle according to **Claim 31**, wherein the sensor surfaces cause the movable parts to move in the opening direction upon contact by or approach of the authorized person and then in the closing direction upon the next approach or contact. As previously disclosed in **claim 30** above, the above combination discloses changing the vehicle door sensing system to unlock and open a door, which is the claimed "opening and closing directions." It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the above combination the known concept of closing a door upon exiting the vehicle and opening the door upon reentering a vehicle. This is a commonly held known practice and one of ordinary skill in the art would have known/recognized this operational procedure and would have likely used this known procedure in the manner claimed.

As to **claim 33**, the combination of Macarini, Van den Boom, and Saunders recite except for the claimed: External door handle according to **Claim 31**, wherein the movable parts are one or more windows, a sliding roof, a rear hatch, and/or one or more doors of the vehicle. As in **claim 24**, the above combination discloses the use of capacitance detection systems to unlock a door. However, none of the above discloses opening a door. In the same art of vehicular door systems, Nahata, [0032], discloses a similar capacitance detection sensor that actuates a vehicle lock as well as opening a vehicle door. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini, Saunders, and Van den Boom the known feature of opening a door, as cited in the claimed limitations, as disclosed in Nahata. The use of capacitance-based vehicular door systems to open a vehicle door is not new in the art and one of ordinary skill in the art would have recognized this known feature and included it in the manner claimed with a reasonable amount of success.

As to **claim 37**, the combination of Macarini, Van den Boom, and Nahata discloses the claimed: External door handle according to **Claim 34**, where it has an outward-acting sensor surface (27) (see **claim 24**, regarding Van den Boom, FIG. 4, electrical charge lines 32), except

for the claimed: wherein the housing unit (30) consists of a main housing (31) and a projecting housing finger (32); and in that -- the end (33) of the finger extends into the outer area (25) of the external door handle, for triggering the locking of the lock. As previously disclosed in **claim 24**, the combination of Macarini, Nahata, and Van den Boom recites a capacitive sensing system that unlocks a vehicle door upon authorization received from a data storage module carried by the user. However, neither Macarini, Van den Boom, nor Nahata recite one set of sensor surfaces for triggering the locking of the lock. In the same art of vehicle door security systems, Sanders, col. 13, lines 13-16, discloses a keypad/transmitter that changes the operational characteristics of a vehicle system to include changing a door function from a locking function to an unlocking function. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Macarini, Van den Boom and Nahata the vehicle configuration keypad disclosed in Sanders a vehicle door system that can change the function of a door locking system to include locking a door based on the sensing of a human hand extending itself proximate to the capacitance sensor. Such a system, as disclosed in Sanders, is not new in the art and one of ordinary skill would have incorporated such a known feature as claimed in the invention with a predictable amount of success.

As to claim 38, Macarini, Van den Boom, Nahata and Sanders recites the claimed External door handle according to **Claim 37**, except for the claimed: wherein the electronic sensor circuit (28, 38) is integrated into the main housing (31) of the housing unit (30), whereas the housing finger (32) can be inserted through an opening (29) in the bracket (11) and through a hole in the outer housing skin (13) of the door. Macarini, as in **claim 24**, discloses a door handle device that includes sensor circuitry that is used to lock and unlock a vehicle door. Neither Macarini nor Nahata recite the door handle as described above. In the same art of vehicle door systems, Van den Boom, FIG. 3 and col 3, lines 53-67 and col 4, lines 1-7, discloses using a vehicle door handle in similar configuration to the door handle claimed in the invention. Van den Boom, although not exactly discloses a mounting bracket as in the claimed invention, Van den Boom nevertheless suggest mounting the door handle to a vehicle door in which the mounting functions in the same manner as the claimed invention with the bracket. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include the

vehicle door handle disclosed in Van den Boom to the door handle system disclosed in Macarini, Van den Boom, Nahata and Sanders to produce a vehicle door handle system as claimed in the invention. Van den Boom represents an alternative embodiment to the door handle disclosed in Macarini and one of ordinary skill in the art would have known/recognized such a known feature and would have likely produced this configuration as claimed in the invention with a likelihood of success.

As to **claim 40**, Macarini recites except for the claimed: External door handle according to **claim 37**, wherein the exciter surface (35) of the first inner electrode is located in the housing unit (30), in particular in the finger (32). As to the above limitations, Macarini does not disclose a capacitively based door handle sensor system while Van den Boom, recites in FIG. 3 and 4 and col. 4, lines 33-45, a cross section of grip 27 includes two parts of an electrode 30 and 33 in which the capacitance sensor 30-34 is installed in an inner shell 28 in part of grip 27 facing lock cylinder 37. At least a portion of the electrodes 30 and 33 are placed along grip 28 which would include any one of four fingers which may cooperate with the handle 13. However, neither Macarini nor Van den Boom nor Sanders recite an element meeting the claimed "first inner electrode. In the same art of door opening systems, Nahata, in FIG. 3, includes a door sensor system 20 which includes a shield layer 30 which receives voltages from sensor circuit 40 in same manner as Applicant's exciter surface 35 is coupled to sensor circuit 38, which is further described in the rejection of **claim 24**. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Macarini, Van den Boom, and Sanders, the shield layer 30 and sensor circuitry found in Nahata which when combined with the sensor components recited in the handle 13 of Van den Boom, would meet the claimed limitations. As recited in the above art, the use of these components and circuitry in the combination recited above is not new in the art and one of ordinary skill in the art would have had a likelihood of success in providing the above combination that meets the claimed invention.

Response to Arguments

7. Applicant's arguments with respect to **new claims 24-41**, filed 10/22/2010 have been fully considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection are presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **CAL EUSTAQUIO** whose telephone number is (571)270-7229. The examiner can normally be reached on 8am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin C. Lee, can be reached at. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. E./

Examiner, Art Unit 2612

/BENJAMIN C. LEE/

Supervisory Patent Examiner, Art Unit 2612